

Visited on 03/03/2020

PubMed [Full text links](#) [Full Text](#)**Format:** Abstract

*Thorax*. 2015 Mar;70(3):258-64. doi: 10.1136/thoraxjnl-2014-205361. Epub 2014 Nov 28.

## Effects of CPAP on body weight in patients with obstructive sleep apnoea: a meta-analysis of randomised trials.

Drager LF<sup>1</sup>, Brunoni AR<sup>2</sup>, Jenner R<sup>2</sup>, Lorenzi-Filho G<sup>3</sup>, Benseñor IM<sup>4</sup>, Lotufo PA<sup>4</sup>.

### Author information

#### Abstract

**INTRODUCTION:** The impact of obstructive sleep apnoea (OSA) treatment with CPAP on weight is not clear. This meta-analysis was designed to assess whether OSA treatment with CPAP promotes changes in body mass index (BMI) and weight.

**METHODS:** We searched PubMed, SCOPUS and Cochrane Central Register electronic databases through 1 October 2013 (including papers in press at that time), without language restrictions. We identified randomised trials of CPAP versus controls with a minimum treatment duration of 4 weeks that objectively measured BMI. Data were independently abstracted and reviewed by two investigators using a standardised protocol.

**RESULTS:** We included a total of 3181 patients from 25 randomised trials that measured BMI and weight. All studies enrolled mainly overweight and obese patients. The fixed-effects meta-analysis revealed that CPAP promoted significant increase on BMI (Hedges'  $g=0.14$ , 95% CI 0.07 to 0.21,  $I(2)=16.2\%$ ) and weight (Hedges'  $g=0.17$ , 95% CI 0.10 to 0.24,  $I(2)=0\%$ ). The funnel plot revealed low risk of publication bias. Meta-regression analyses including age, gender, baseline BMI, baseline weight, OSA severity, CPAP compliance, use of sham CPAP, study duration, study design (crossover/parallel), study origin (Western/Eastern), recommendation for dietary changes or physical activity, revealed that no single predictor influenced the main outcome for weight. Baseline weight was a predictor of increased BMI after CPAP.

**CONCLUSIONS:** OSA treatment with CPAP promotes significant increase in BMI and weight. Additional therapies for body weight reduction must be recommended for overweight or obese patients with OSA initiated on CPAP.

## Visited on 03/03/2020

Published by the BMJ Publishing Group Limited. For permission to use (where not already granted under a licence) please go to <http://group.bmj.com/group/rights-licensing/permissions>.

**KEYWORDS:** Sleep apnoea

### Comment in

The complex relationship between weight and sleep apnoea. [Thorax. 2015]

ACP Journal Club: review: in patients with obstructive sleep apnea, continuous positive airway pressure increases weight. [Ann Intern Med. 2015]

[CPAP-therapy affects body weight]. [Dtsch Med Wochenschr. 2015]

PMID: 25432944 DOI: [10.1136/thoraxjnl-2014-205361](https://doi.org/10.1136/thoraxjnl-2014-205361)

[Indexed for MEDLINE]

---

**Publication types, MeSH terms**

---

**LinkOut - more resources**